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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,090	09/16/2002	Hideaki Kato	JCLA9602	4153

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J C PATENTS, INC.
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EXAMINER

KITOV, ZEEV

ART UNIT PAPER NUMBER

2836

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,090

Applicant(s)

KATO ET AL.

Examiner

Zeev Kitov

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(s).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Objection

1. Claims 1 and 4 are objected due to typing errors. The word "anda" should be retyped as "and a".
2. Specification is objected to due to following statements recited multiple times: "second capacitors, connected among the AC power lines in series". If the capacitors were connected in series, they would form together with a common mode reactor coils a high-pass filter, which (i) would violate a basic principle of a DC voltage generation, which necessary for supply of the inverter; and (ii) would aggravate the EMI problem. Appropriate correction/explanation should be done.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A reason for that is that the claims recite following statements: "second capacitors, connected among the AC power lines in series". If the capacitors were connected in series, they would form together with a common mode reactor coils a high-pass filter, which (1) would violate a basic principle of a DC voltage generation, which necessary for supply of the inverter; and (2) would aggravate the EMI

problem. For purpose of Examination the recited phrase was not given patentable weight.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the second capacitors, connected among the AC power lines in series" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Otagaki et al. (JP 11146557). Regarding Claim 1, Otagaki et al. disclose all of the claim elements including a commercial power source (shown in Fig. 1 and 3); a motor, for driving a compressor mechanism (element M in Fig. 1 and 3); an inverter circuit (element 13 in Fig. 1na d3) converting a commercial frequency to a driving frequency, to

control the motor; and a noise filter (element 11 in Fig. 3), arranged at an input of the inverter circuit, for suppressing a common mode noise of the commercial power source and the inverter circuit, and connected to a ground through a metal frame (element K in Fig. 1 and 3) used for receiving a compressor main body, and wherein the noise filter further comprises first capacitors, connected between AC power lines (elements 21 in Fig. 1); second capacitors, connected among the AC power lines (elements 22 in Fig. 1 and couple of capacitors in Fig. 3); common mode reactor coils, connected among the first capacitors and the second capacitors (elements 23 in Fig. 1); and a leakage current suppressing circuit, having a damper for clamping a voltage (element 20 in Fig. 1) and connected between nodes of the second capacitors and the metal frame.

Regarding Claim 2, Otagaki et al. disclose the damper in the leakage current suppressing circuit formed by opposite connected Zener diodes (element 20 in Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otagaki et al. (JP 11146557) in a view of Moyer et al. (US 3,969,614). As was stated above, Otagaki et al. disclose all the elements of Claim 1. However, regarding Claim 3, they do

not disclose the Zener diode with breakdown voltage within a range from 10V to 30V. Moyer et al. disclose the Zener diode with breakdown voltage of 27 volts used in the similar environment of the motor drive circuits. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Otagaki et al. solution by selecting the diodes with the breakdown voltage of 27 volts according to Moyer et al., because selection of the zener diode having particular breakdown voltage is a common engineering design task, which does not represent invention or innovation.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otagaki et al. (JP 11146557) in a view of Karwath (US 6,169,378). The claim differs from Claim 1 by its additional limitation of a third capacitor connected to the clamper, which Otagaki et al. do not disclose. Karwath discloses the voltage clamper (element 86 in Fig. 2) connected in parallel to the smoothing capacitor (element 88 in Fig. 2, col. 5, lines 26 – 31). Both references belong to the same problem solving area, namely providing efficient switching motor control. ~~Therefore;~~ Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Otagaki et al. solution by adding the smoothing capacitors in parallel to the zener diodes, since the non-smoothed, sharp edged, voltage waveform across the zener diode generates higher frequency harmonics contributing to the well known in the art electromagnetic interference problem. Keeping the EMI noise below allowed values is a mandatory requirement in all industrialized countries.

Regarding Claim 5, Otagaki et al. disclose the damper in the leakage current suppressing circuit formed by opposite connected Zener diodes (element 20 in Fig. 1).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otagaki et al. in a view of Moyer et al. As was stated above, Otagaki et al. and Karwath disclose all the elements of Claims 4 and 5. However, regarding Claim 6, they do not disclose the Zener diode with breakdown voltage within a range from 10V to 30V. Moyer et al. disclose the Zener diode with breakdown voltage of 27 volts used in the similar environment of the motor drive circuits. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Otagaki et al. solution by selecting the diodes with the breakdown voltage of 27 volts according to Moyer et al., because selection of the zener diode having particular breakdown voltage is a common engineering design task, which does not represent invention or innovation.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Otagaki et al. in a view of Moyer et al. and further in a view of Court Decision, *In re Aller*, 105 USPQ 233. As was stated above, Otagaki et al. and Karwath disclose all the elements of Claim 4. However, regarding Claim 7, they do not disclose a particular range of the third capacitor. The Court Decision address this issue stating that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to have further modified the Otagaki et al. solution by selecting the third capacitor in the range of of 470pF to 10,000pF, because as the Court Decision states, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Conclusion

The prior art made of record not relied upon is considered pertinent to applicant's disclosure: US 3,946,738, US 4,833,377, US 6,636,107, US 6,611,441.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose telephone number is (703) 305-0759. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Z.K.
11/14/2003



2003/11/14
Zeev Kitov
Examiner